

In the Claims:

Please amend claims 1, 10, 11 and 12 as follows:

- gpc*
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1. (Amended) A prosthesis for surgical implantation to replace a segment of a blood vessel, the prosthesis comprising:
- a first tube of biologically compatible material having an exterior surface,
 - a membrane of polymer material positioned about the exterior surface of the first tube, and
 - at least one support structure wound along a winding axis about an exterior surface of the membrane to form axially spaced-apart ridges on the membrane that enable the material to substantially close a hole that is created when the material is punctured by a needle or cannula, the membrane having a microstructure of nodes interconnected by fibrils effective to facilitate bonding of the support structure to the membrane and inhibit delamination of the support structure from the membrane.
- a2*
10. (Amended) A prosthesis for surgical implantation to replace a segment of a blood vessel, the prosthesis comprising:
- a first tube of biologically compatible material having an exterior surface,
 - a membrane of polymer material positioned about the exterior surface of the first tube, and
 - a plurality of spaced-apart rings placed about an exterior surface of the membrane to form axially spaced-apart ridges on the membrane that enable the material to substantially close a hole that is created when the material is punctured by a needle or cannula, the membrane having a microstructure of nodes interconnected by fibrils effective to facilitate bonding of the rings to the membrane and inhibit delamination of the rings from the membrane.
11. (Amended) A prosthesis comprising:
- an inner tube of polymer material having an exterior surface,

a membrane of polymer material positioned about the exterior surface of the inner tube, and

at least one support structure wound along a winding axis about an exterior surface of the membrane to form axially spaced-apart ridges on the membrane that enable the material to substantially close a hole that is created when the material is punctured by a needle or cannula, the membrane having a microstructure of nodes interconnected by fibrils, the nodes being oriented at angle relative to the winding axis effective to facilitate bonding of the support structure to the membrane.

12. (Amended) A method of making a prosthesis, the method comprising:

providing a first tube of biologically compatible material having an exterior surface,

positioning a membrane of polymer material about the exterior surface of the first tube, and

winding at least one support structure along a winding axis about an exterior surface of the membrane to form axially spaced-apart ridges on the exterior surface that enable the material to substantially close a hole that is created when the material is punctured by a needle or cannula and the ridges being apart a distance effective to direct a needle to a puncture site at an angle that inhibits needle plowing and hole enlarging, the spaced apart distance being less than 1.5 times the outer diameter of the needle, the membrane having a microstructure of nodes interconnected by fibrils effective to facilitate bonding of the support structure to the membrane and inhibit delamination of the support structure from the membrane.

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